

## **Introduction**

### **2002 303(d) Report on Impaired Waters**

#### **Virginia Department of Environmental Quality**

#### **Purpose of the Report**

Section 303(d) of the Clean Water Act and the Environmental Protection Agency's (EPA) regulation 40 CFR Section 130.7(d) (1) promulgated in July, 1992, requires each state to submit a Total Maximum Daily Load (TMDL) Priority List to EPA in even numbered years. The current Impaired Waters List is in two parts, and was developed by the Virginia Department of Environmental Quality (DEQ) with assistance from the Virginia Department of Conservation and Recreation (DCR).

The Impaired Waters List is a compilation of those waters in the Commonwealth of Virginia that are designated water quality limited. EPA's water quality management regulations resulted in the listing of waters as follows:

- X Part I of the list contains waters that do not meet Virginia's numeric and/or narrative water quality standards or criteria. These are the waters that either partially support or do not support one or more of five designated uses. (i.e. aquatic life, fish consumption, shellfish consumption, swimming, and drinking water.) These waters are defined as impaired and are divided into Parts 1A (for uses other than shellfish consumption), 1B (for shellfish consumption), and 1C (impairments influenced by natural conditions) of the list.
- X Part II of the list contains those waters where water quality standards are not expected to be met, even with the application of technology based effluent control technology of secondary treatment and best practicable treatment. These are waters where Virginia Pollutant Discharge Elimination System (VPDES) permit effluent limitations need to be more stringent than technology based requirements in order to maintain or attain water quality standards in the receiving stream.

#### **Virginia's Water Quality Assessment**

The assessment of Virginia's waters was based on the evaluations of water quality data from government agency and citizen monitoring, according to the 2002 Water Quality Assessment Guidance Manual, from Virginia Department of Health fish and shellfish consumption actions, and from VPDES permit information. Using this information for the assessment period of January 1, 1996 through December 31, 2000, DEQ produced the 2002 305(b) Water Quality Assessment Report, which placed stream segments or portions of tidal waters into the following categories for each assessed designated use:

Fully Supporting Designated Use. Waters meet water quality standards that have been assessed and support Virginia's designated use.

Fully Supporting But Threatened. Waters meet water quality standards and designated use, but there is an apparent decline in water quality. Due to a change in EPA's definition of "threatened", these waters are called "Waters of Concern" in the 2002 303(d) Report.

Partially Supporting. Waters exceed water quality standards for a designated use by some frequency and are considered moderately impacted.

Not Supporting. Waters exceed water quality standards for a designated use at a greater frequency and are considered severely impacted.

Waters are defined as impaired when they do not support, or only partially support, one or more of five designated uses, (i.e. aquatic life, fish consumption, shellfish consumption, swimming, and drinking water). Support of the designated uses is based on compliance with Virginia's Water Quality Standards which include numeric and narrative criteria. Compliance is determined by the assessment of all available monitoring data and water quality information.

Use support, based on human health considerations, is primarily made by the Virginia Department of Health (VDH). For example, fish and shellfish use support determinations are based on restrictive actions by the VDH on the harvesting and consumption of these resources. However, for the 2002 assessment, waters where two or more fish tissue exceedences of the Human Health Surface Water Criteria (9 VAC 25-260-140) screening value occurred at the same monitoring station were considered impaired. Twenty-five segments were declared impaired with a primary cause of fish tissue screening value violations in 2002.

The purpose of the 303(d) Impaired Waters List is to report those waters still needing TMDLs. Waters contained in Parts 1A and 1B of the Impaired Waters List in the 2002 303(d) Report are those waters that DEQ believes need a TMDL. Waters in Part II are those needing revised discharge permit limits that will attain, or maintain, water quality standards. Waters found in Part 1C of the list are considered impaired, either fully or partially, due to natural conditions. Further study of each individual water in Part 1C is needed to determine if a TMDL is applicable for each water in Part 1C and/or if changes to water quality standards are appropriate to reflect those conditions. In response to EPA comments, TMDL development dates are now shown for every water in Parts I and II of the Impaired Waters List.

Appendix B is Virginia's first step toward integrating the 305(b) and 303(d) reports in accordance with guidance issued by EPA in November 2001. Many of the waters contained in Appendix B of this report are not impaired and are included only for informational purposes. These waters are categorized as to their status. They include those waters where indicators show an apparent decline in quality needing additional review, and those potential problem areas that need additional monitoring. Prior 303(d) Lists called such waters "threatened". EPA has changed its definition of "threatened" to essentially mean waters expected to become impaired in the near future. DEQ cannot accurately predict whether specific waters will become impaired later. Therefore, waters we previously categorized as "threatened" are called "Waters of Concern" in the 2002 303(d) Report. DEQ does reassess such segments using additional data. Twenty-five segments, newly listed as impaired in 2002, were assessed as "threatened" (i.e. Waters of Concern) in 1998.

### **Water Quality Monitoring, Information, and Restoration Act (WQMIRA)**

In addition to the requirements of the federal Clean Water Act, Virginia's 1997 Water Quality Monitoring, Information, and Restoration Act (WQMIRA) has added additional tasks for the 303(d) assessment and reporting process. A Guidance Manual containing the procedures for determining and delineating impaired waters was required to be developed and public noticed. In late 1997, DEQ developed a draft guidance manual containing the procedures used to assess and define impaired waters for Virginia's 1998 303(d) List. In February 1998, this manual was public noticed for public comment in the Virginia Register. For the 2002 305(b) and 303(d) reports the updated Guidance Manual was public noticed in the Virginia Register in September 2001, and comments received were incorporated into the final Guidance Manual. The Guidance manual was amended on July 15, 2002, to reflect changes in the use of probabilistic benthic data in estuarine waters. EPA, recognizing the controversy over the use of such data requested in September 2002, that Virginia and Maryland develop a mutually agreeable way to use it in future 303(d) lists. Virginia agreed to update EPA on this effort by April 1, 2003 and to attempt to finalize a methodology by September 30, 2003. The final Guidance manual can be found on the DEQ website at: <http://www.deq.state.va.us/water/reports.html>. This document provides detailed explanation of the assessment process.

Also, WQMIRA requires that the 303(d) and 305(b) reports be developed with consultation from Virginia's state Universities. In August 1997, DEQ contracted the Virginia Water Resources Research Center to coordinate the state "University review" of the assessment process used in the development of the 303(d)/305(b) reports. This group has been working with DEQ in the assessment and listing process for the 2002 303(d) and 305(b) reports.

## **Changes in 2002 Assessment Process**

There have been a few changes in the 2002 assessment process as compared to the 1998 assessment. Additional information on assessment procedures can be reviewed in the Water Quality Assessment Guidance Manual, which can be found on the DEQ website at: <http://www.deq.state.va.us/water/reports.html>.

A primary change in the assessment process was the delineation of the miles of stream represented by each individual monitoring station. In earlier assessments, EPA guidance promoted the concept of using a single monitoring station to represent the entire mileage in a small watershed. EPA changed this concept since Virginia last produced a 303(d) List in 1998. Current EPA assessment guidance recommends that a monitoring station should represent no more than 10 to 25 miles of a stream. As a result of this change in estimating miles represented by a monitoring station, the total mileage covered by the monitoring stations in Virginia has decreased. However, the number of monitoring stations used for the 2002 report, increased compared to that for the 1998 report, from 1620 to 1680.

Another change for the 2002 reporting period is the assessment of fish tissue data and the listing of waters where two or more exceedences of the human health surface water criteria screening value were detected at the same station as impaired. In 1998 such waters were considered fully supporting but threatened. This action was taken in order to better safeguard human health. Placing these waters on the 2002 303(d) List will require development of a TMDL and subsequent pollution reduction actions, with the objective of preventing further deterioration that could trigger issuance of a fish advisory by the Virginia Department of Health.

## **Priority for TMDL Development**

Federal regulations require the waters listed in Parts I and II of the Impaired Waters List, which still need TMDLs, have a priority ranking for development of TMDLs. Virginia's TMDL development priority ranking for the impaired waters listed in Part I is based on two factors.

First, the severity of the impairment, including consideration of the number of beneficial uses lost, number of pollutants responsible for the impairment and the presence of endangered species in the impaired waters. The second factor is the availability of "tools" to develop the TMDL. Availability of tools includes such things as on-going data acquisition activities in the watershed, the existence of current data such as load allocations, and the interest, cooperation and backing of the affected public. Additionally, other programmatic requirements such as the need for the waste load allocation (WLA) component of a TMDL by a VPDES permit, may be part of the tools necessary for priority ranking. Waters that are severely impaired and already have many of the TMDL tools available are generally defined as high priority for TMDL development. Waters with less severe impairments and those with fewer TMDL development tools are ranked medium or low priority for TMDL development.

In response to EPA comments, TMDL development dates are now included for all waters in Parts I and II of the Impaired Waters List. Also, comments from the United States Fish and Wildlife Service resulted in revisions to the TMDL development dates of impaired segments

in Part 1A of the List that they identified as concerns for possible endangered species areas.

Due to the TMDL requirements of the 1999 Consent Decree, the priority ranking for each newly listed water, that are not part of the Consent Decree schedule, will have to be considered on a case by case basis. It is anticipated that any new segments within a water body already scheduled for TMDL development would be included in that TMDL study.

TMDL development for the waters contained in Part II of the Impaired Waters List will be done through the VPDES permit issuance or re-issuance process. Since permits are issued on a 5-year schedule, it is anticipated that all Part II waters will either be removed from the list or have TMDLs developed and submitted to EPA for approval by year 2007.

### **Removing Waters from the 303(d) TMDL List**

In accordance with EPA Region III guidance, waters can be removed from Parts I and II of the Impaired Waters List in the 303(d) Report for the following reasons:

- X Subsequent assessments show that there are insufficient violations of Virginia=s water quality criteria to define the water as impaired.
- X A TMDL has been developed and approved by EPA.
- X A treatment plant has implemented the water quality based effluent limit, through a change to its discharge permit, and water quality of the receiving stream is being maintained.

Waters having approved TMDLs remain on the 2002 Impaired Waters List. The mapping application found at [www.deq.state.va.us/303d.html](http://www.deq.state.va.us/303d.html), will link to a completed TMDL study for an applicable water. Some waters contained in Parts I and II of the 1998 303(d) TMDL Priority List were not listed in 2002. These waters are now considered fully supporting of water quality standards and are identified in Section III of the 303(d) Report with an explanation for their removal. Data and other supporting documentation for all proposed delistings have been submitted to EPA for their review. All waters removed from Parts I and II of the 1998 Impaired Waters List must be approved by EPA.

Additionally, there were 200 waters identified on a Plaintiff's List in the 1999 Consent Decree (Attachment B) that DEQ was required to list as impaired unless data verifies they are not impaired. These waters are identified, and their current listing status is explained, in Section IV of this report. Each of the waters in Section IV is also found, either in Part I of the Impaired Waters List, in Section III of the 303(d) Report if it is a candidate for delisting, or was one of seven waters on the Plaintiff's List not yet assessed. In addition, one of these waters was found to have insufficient data to assess for the 2002 Report and will need to be reassessed.

### **Public Participation Process**

Immediately after the issuance of the public comment draft of the 303(d) Report Virginia sent a letter of notification to each locality, Department of Health District, Planning District Commission, and Soil and Water Conservation District which has one or more impaired waters within its jurisdictional boundaries. Included in this letter was a link to a webpage where fact sheets on every impaired water in this report are available. DEQ will also send a hard copy of fact sheets of interest to any of these groups upon request.

Virginia public notices the 303(d) Report in the Virginia Register. In late July and early August 2002, DEQ held three public meetings on the 303(d) Report. Upon completion of the public participation process, DEQ made revisions to the 303(d) Report and submitted the final report to EPA for approval. This report can be downloaded via the Internet at <http://www.deq.state.va.us/water/303d.html>. The entire final 2002 report, including all appendices will also be available on compact discs. Map images of impaired waters by major river basins and the 305(b) Water Quality Assessment Report; will also be included on the compact discs. A copy can be ordered via the URL above or by calling DEQ.